

What is claimed:

1. A method of assessing whether a subject is afflicted with prostate cancer, comprising:
 - a) obtaining a level of expression of a marker in a sample from said subject, wherein said marker is selected from the group consisting of one or more SMARC markers;
 - b) obtaining a normal level of expression of said marker in a control sample; and
 - c) comparing (a) with (b), wherein a significant difference between said level of expression of said marker in said sample from said subject, and said normal level is an indication that said subject is afflicted with prostate cancer.
2. The method of claim 1, wherein said marker corresponds to a transcribed polynucleotide or portion thereof.
3. The method of claim 1, wherein said sample comprises cells obtained from said subject.
4. The method of claim 3, wherein said cells are collected from a prostate gland.
5. The method of claim 3, wherein said cells are collected from blood.
6. The method of claim 1, wherein said level of expression of said marker in said sample differs from said normal level of expression of said marker in a subject not afflicted with prostate cancer by a factor of about at least 2.
7. The method of claim 1, wherein said level of expression of said marker in said sample differs from said normal level of expression of said marker in a subject not afflicted with prostate cancer by a factor of above at least 3.
- 25 8. The method of claim 1, wherein said level of expression of said marker in said sample is assessed by detecting the presence in said sample of a protein corresponding to said marker.
9. The method of claim 8, wherein said presence of said protein is detected using a reagent which specifically binds with said protein.

10. The method of claim 9, wherein said reagent is selected from the group consisting of an antibody, an antibody derivative, and an antibody fragment.

11. The method of claim 1, wherein said level of expression of said marker in said sample is assessed by detecting the presence in said sample of a transcribed polynucleotide or portion thereof.

12. The method of claim 11, wherein said transcribed polynucleotide is a mRNA.

13. The method of claim 11, wherein said transcribed polynucleotide is a cDNA.

14. The method of claim 11, wherein said detecting the presence in said sample of a transcribed polynucleotide or portion thereof further comprises amplifying said transcribed polynucleotide or portion thereof.

15. The method of claim 1, wherein said level of expression of said marker in said sample is assessed by detecting the presence in said sample of a transcribed polynucleotide, or portion thereof, which anneals with said marker, or portion thereof, under stringent hybridization conditions.

15 16. The method of claim 1, further comprising comparing:

- a) the level of expression in said sample of at least two SMARC markers independently, and
- b) the normal level of expression of each of at least two SMARC markers in samples of the same type obtained from control subjects not afflicted prostate cancer,
- c) comparing (a) with (b), wherein said level of expression of more than one of the markers is significantly altered, relative to the corresponding normal levels of expression of the markers, is an indication that the subject is afflicted prostate cancer.

20 25 17. A method for monitoring the progression of prostate cancer in a subject, the method comprising:

5 a) detecting in a subject sample at a first point in time, the expression of a marker, wherein the marker is selected from the group consisting of one or more SMARC markers or a combination thereof;

5 b) repeating step (a) at a subsequent point in time; and

5 c) comparing said level of expression detected in steps (a) and (b), and therefrom monitoring the progression of prostate cancer in said subject.

18. The method of claim 17, wherein said marker corresponds to a transcribed polynucleotide or portion thereof.

10 19. The method of claim 17, wherein the sample comprises cells obtained from said subject.

20. The method of claim 19, wherein said cells are collected from a prostate gland.

21. The method of claim 19, wherein said cells are collected from blood.

22. A method of assessing the efficacy of a therapy for inhibiting prostate cancer in a subject, comprising:

15 a) expression of a SMARCD3 marker in a first sample obtained from said subject prior to providing at least a portion of said therapy to said subject;

15 b) expression of the SMARCD3 marker in a second sample obtained from said subject following therapeutic treatment; and

15 c) comparing (a) with (b), wherein a significantly enhanced level of expression of said marker in said second sample, relative to said first sample, is an indication that said therapy is efficacious for inhibiting prostate cancer in said subject.

20 23. A method of assessing the potential of a test compound to trigger prostate cancer in a cell, comprising:

25 a) maintaining separate aliquots of cells in the presence and absence of said test compound; and

25 b) comparing expression of a SMARCD3 marker in each of said aliquots, wherein a significantly reduced level of expression of the marker in the aliquot maintained in the presence of the test compound, relative to said aliquot maintained in the absence of said test compound, is an indication that said test compound possesses the potential for triggering prostate cancer in a cell.

24. A method of inhibiting prostate cancer in a subject at risk for developing prostate cancer, the method comprising inhibiting expression of SMARCD3 marker in the cells of a subject.

5 25. A method for identifying a compound useful for treating prostate cancer, comprising:

10 a) measuring the expression level of a SMARCD3 marker in a cell in the presence of a test compound; and

15 b) comparing the expression measured in step (a) to the expression of the SMARCD3 marker in a cell in the absence of said test compound, wherein said compound is useful for treating prostate cancer when the expression level of said marker in the presence of said test compound is higher than its expression level in the absence of said test compound.

20 26. The method of claim 25, wherein said expression level is determined by measuring the levels of mRNA of said marker.

25 27. The method of claim 25 wherein said expression level is determined by measuring the levels of protein of said marker.

28. A method for identifying a compound useful for treating prostate cancer, comprising

20 a) measuring an activity of a SMARCD3 marker; and

25 b) comparing the activity measured in step (a) to the level of activity of said marker in the absence of the test compound, wherein said compound is useful for treating prostate cancer when the activity of the SMARCD3 marker in the presence of said test compound is higher than its activity in the absence of said test compound.

29. The method of claim 28, wherein said cell is a prostate cancer cell.

30. A method of treating prostate cancer in a patient, comprising administering to the patient in need thereof a compound which increases the expression of a SMARCD3 marker.

31. The method of claim 30, wherein said compound increases the expression of a SMARCD3 mRNA.

32. The method of claim 31, wherein said compound decreases expression of a SMARCD3 marker protein.

5 33. A method for determining the efficacy of androgen withdrawal treatment in a subject afflicted with prostate cancer, comprising:

10 a) detecting in said subject sample at a first point in time, the expression level of a SMARCD3 marker;

b) repeating step (a) at a subsequent point in time occurring after said subject begins androgen withdrawal treatment; and

c) comparing the level of expression of said marker detected in steps (a) and (b), wherein a increase in said level of expression indicates that the androgen withdrawal treatment has reduced efficacy.